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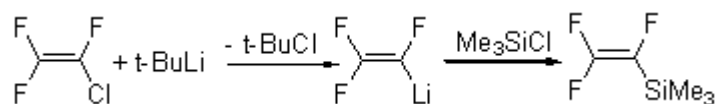
Trimethyl(trifluorovinyl)silane

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Trimethyl(trifluorovinyl)silane was prepared [1] without characterization details from bromotrifluoroethylene, which is not commercially available. The product was synthesized using several other reagents: chlorotrifluoroethylene, trifluoroethylene and various alkyl lithium compounds. An example of preparation is given here. Chlorotrifluoroethylene 3.8g (32.6 mmol) was vacuum transferred in a large storage tube over 50 ml distilled ether. t-BuLi/pentane 20 ml (32.6 mmol) was added dropwise under an argon atmosphere to the contents of the storage tube kept at -78°C . After 70 minutes addition of t-BuLi was completed and trimethylsilylchloride 3.54g (32.6 mmol) was added dropwise over a period of 1 h. The material was allowed to warm up slowly to room temperature for 7 h. Fractional distillation gave trimethyl(trifluorovinyl)silane as a colorless liquid (1.1g, 22% yield).

B.p. $65\text{--}66^\circ\text{C}$.

^1H NMR (200 MHz, neat): 0.23 (s, 3H).

^{13}C NMR (200 MHz, neat): -3.7 (s), 131.3 (ddd, $J = 254.5$, 67.1 and 2.8 Hz), 161.3 (ddd, $J = 312.2$, 271.6 and 33.6 Hz).

^{19}F NMR (200 MHz, neat, vs. CFCl_3): -88.8 (dd, $J = 70.9$ and 25.4 Hz), -117.6 (dd, $J = 116.5$ and 70.8 Hz), -198.6 (dd, $J = 116.4$ and 25.2 Hz).

MS (EI, %): 154 (M^+ , 12), 139 ($[\text{M}-\text{CH}_3]^+$, 21), 81 (C_2F_3^+ , 100), 77 ($[\text{Si}(\text{CH}_3)_2\text{F}]^+$, 50), 74 ($[\text{HSi}(\text{CH}_3)_3]^+$, 45), 73 ($[\text{Si}(\text{CH}_3)_3]^+$, 19), 59 (CSiF^+ , 41).

Reference

1. Tarrant, P.; Ward, W. H. *J. Org. Chem.* **1966**, *31*, 1143-1146.

Sample availability: sample is not available.

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